

**CLAIMS**

1. A system of parsing unstructured or partially structured data; said system processing at least portions of said data in an incremental manner.
- 5 2. The system of Claim 1 wherein said processing in an incremental manner comprises multiple parsing steps, each parsing step performed by consulting an inference engine.
- 10 3. A knowledge base for use in association with the system of Claim 1 or Claim 2, said knowledge base analyzing said data at one or more predefined levels of analysis.
4. The knowledge base of Claim 3 wherein said levels include a level of analysis at a lexico-grammatical level.
- 15 5. The knowledge base of Claim 3 wherein said levels include a level of analysis at an orthographic level.
6. The knowledge base of Claim 3 wherein said levels include a level of analysis at a semantic level.
7. The knowledge base of Claim 3 wherein said levels include a level of analysis at a contextual level.
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8. The knowledge base of Claim 3 wherein said knowledge base uses a knowledge representation language which embodies linguistic theory.
9. The knowledge base of Claim 8 wherein said linguistic theory is that of systematic functional linguistics.
10. The knowledge base of Claims 8 or 9 wherein said linguistic theory enables the complete representation of all possible forms of said data.
11. The knowledge base of Claim 10 wherein said data is attribute data.
12. The knowledge base of Claim 11 wherein said attribute data is name and address data.
13. A method of parsing an attribute data set; said method comprising incrementally refining elements of said data set until a predefined level of meaning is determined.
14. The method of Claim 13 wherein said step of incrementally refining said elements includes execution of an elaboration operator.
15. The method of Claim 13 wherein said step of incrementally refining said elements includes execution of an encapsulation operator.

16. The method of Claim 13 wherein said step of incrementally refining said elements includes execution of an enhancement operator.
17. The method of Claim 13 wherein said step of  
5 incrementally refining said elements includes execution of an entailment operator.
18. The method of Claim 13 wherein said step of incrementally refining said elements includes execution of an extension operator.
- 10 19. The method of any one of Claims 13 through to 18 wherein a best-first searching algorithm is utilized.
20. The method of any one of Claims 13 to 18 wherein a look-ahead algorithm is utilized.
21. The system of any one of Claims 1 to 18 wherein an  
15 inference strategy is utilized.
22. A system for processing an unstructured or partially structured set of data so as to obtain a set of structured data; said system comprising a parser engine in communication with a knowledge database.

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23. The system of Claim 22 wherein said parser engine is  
reliant on data in the form of knowledge retained in  
said knowledge database.
24. The system of Claim 22 or Claim 23 further including a  
5 temporary data store associated with said parser engine.
25. The system of Claim 24 further including a data block  
identifier which provides input to said parser engine.
26. The system of Claim 25 wherein said data block  
10 identifier breaks said set of unstructured data into a  
plurality of data blocks for input to said parser  
engine.
27. The system of Claim 26 wherein said parser receives  
consecutive ones of said data blocks and performs a  
first association step on said data blocks based on  
15 knowledge derived from said knowledge database so as to  
derive a first postulated categorization of said data  
blocks and storing said data blocks thereby categorized  
in said temporary storage means.
28. The system of Claim 27 wherein said parser engine  
20 performs a confirmation step on said data blocks stored  
in said temporary storage means so as to either confirm  
or reject its categorization of said data blocks.

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29. The system of any one of Claims 22 through to 28 wherein said knowledge base includes knowledge about the information structures of identifying attribute objects.
30. The system of any one of Claims 22 through to 29 wherein  
5 said knowledge database includes knowledge about an association between patterns and the identifying attribute objects they represent.
31. The system of any one of Claims 22 through to 30 wherein  
10 a precedence of alternative solutions has been precompiled in said knowledge database thereby to allow best-first searching to be performed by said parser engine.
32. The system of any one of Claims 22 through to 31 wherein  
15 said parser engine utilizes a best-first searching algorithm.
33. The system of any one of Claims 22 to 32 wherein said parser engine utilizes a look-ahead algorithm.
34. The system of any one of Claims 22 to 33 wherein said parser engine utilizes an inference strategy.
- 20 35. The system of Claim 1 or Claim 2 or any one of Claims 22 to 34 wherein said data comprises attribute data.

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36. The system of Claim 35 wherein said attribute data comprises name and address data.

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